

Refrigerated/heated circulating baths » LT ecocool range

# LT ecocool™ energy efficient Refrigerated/heated circulating baths

A new range of innovative, eco-friendly, refrigerated heated circulating baths offering significant running cost savings whilst delivering powerful cooling. Consisting of three models, all products in the LT ecocool™ range are supplied assembled as ready to use kits, complete with accessory hosing\*, clips and connectors as standard.

- Choice of three models, temperature range  $-30^{\circ}\text{C}$  to  $200^{\circ}\text{C}^+$  (model dependent)
- Industry leading 4 year warranty with Grant renowned service and support, no registration required
- Active cooling through the whole temperature range
- True energy saving of up to 80% against standard compressor units



\* Temperature range of hosing supplied:  $-40^{\circ}\text{C}$  to  $100^{\circ}\text{C}$  (can be cut to length as required). Supplied tubing 2 x 1.5m ID 9mm  $\varnothing$   
 † LT ecocool™ 200: 230V available late 2016






## Applications:

- Pharmaceutical - mini pilot plant reactors
- Education - rotary evaporator cooling, replacement of running tap water cooling, immersing small samples, photometry, chromatography systems
- Industrial - QC testing, sample preparation, general cooling, reaction chemistry, temperature control, semi-conductor manufacturing, rheometry
- Food - refractometry
- Life-science - electrophoresis cooling
- High temperature cooling - active up to  $200^{\circ}\text{C}$

## Refrigerated/heated circulating baths » Models, options and accessories







## LT ecocool™ refrigeration range – Models and specifications

		LT ecocool™ 100	LT ecocool™ 150	LT ecocool™ 200*	
		 <p>h: 640mm d: 430mm w: 245mm weight: 29kg</p>	 <p>h: 640mm d: 430mm w: 245mm weight: 29kg</p>	 <p>h: 640mm d: 430mm w: 245mm weight: 29kg</p>	
Temperature range	°C	-20 to 100	-25 to 150	-30 to 200	
Temperature stability	±°C	0.05	0.02	0.01	
Flow rate (max)	L/min	17	14 - 22 (adjustable)		
Pump pressure (max)	mbar	250	530	530	
Tank volume	L	5	6		
Working Area (d x w)	mm	118 x 154			
Min/Max liquid level	mm	85/145	130/145		
Calibration points		2	5		
Cooling power (typical)	@ 20°C	W	250	400	500
	@ 10°C	W	230	330	430
	@ 0°C	W	185	200	300
	@ -10°C	W	115	109	140
	@ -20°C	W	40	60	75
Programs		-	1 x 30 segments Labwise™ required	10 x 100 segments	
Communication interface		-	USB		
Temperature probe socket		-	6 pin mini DIN		
Display		4 digit LED	Full colour QVGA TFT		
Languages		-	EN, FR, DE, IT, ES		
Timer		1 min to 99 hrs 59 mins			
Temperature presets		3			
Alarms		High	High and low		
Electrical power (max) W	120V/230V	2160/2070 (60/50 Hz)	2280/2760 (50-60 Hz)	-/2760 (50-60 Hz)	
Safety		Adjustable over temperature cut-out			
Ready to use kits		Assembled and supplied with standard tubing, insulation, clips and connectors			




\* available late 2016. Grant Instruments retain the right to amend or change product information without prior notice.

## Refrigerated/heated circulating baths » Models, options and accessories

### Options and accessories

<b>Labwise™ PC software</b> (optional)			
Allows two-way communication for status display, programming and data capture (see page 3.1. for more information). USB cable provided	-		
<b>External probes</b>			
<b>PEP</b> plastic probe	-	•	•
<b>SEP</b> stainless steel probe	-	•	•
<b>Vertical turbine pumps</b> (optional) - when pump is fitted, available working area is reduced.			
Low noise, compact design. Supplied with pipe connections and special lid for fitting to tank, pipe bore 12.7 mm.			Required only where application demands a higher pressure than that delivered by the internal pump to maintain flow.
<b>VTP1-LT</b> maximum pressure 1000 mbar maximum flow 9 L/min			Note: The optional VTP pumps will transfer additional heat to the baths and reduce the net cooling power of the refrigeration unit. The above figures must be taken into consideration when choosing the refrigeration unit. when ordering a VTP pump, please specify which refrigeration base unit it is to be used with.
<b>VTP2-LT</b> maximum pressure 1650 mbar maximum flow 12 L/min			Note: Other sizes of heat exchange coil can be made to your specification, contact Grant for further information.
<b>Heat exchange coil</b>			
<b>CW5</b> Other sizes of heat exchange coil can be made to your specification, contact us for further information			Temperature range: 2°C above the temperature of the coolant Coil Øxl: 77x55mm Pipe bore inlet/outlet: 7mm
<b>Hose Kits</b>			
<b>HOSE100</b> General purpose hose kit: -40°C to 100°C <b>HOSE200</b> High temperature hose kit: -50°C to 200°C			Hose kit 2 x 2m, assembled with Optima™ pump outlet plate and simple hose clips, no tools required.







### High pressure pumps (optional)

			VTP pumps		Heat exchange coil
			VTP1-LT	VTP2-LT	CW5
					
Maximum pressure	water	mbar	1000	1650	-
Maximum flow	water	L/min	9	12	-
Pipe bore	inlet/outlet	mm	12.7	12.7	7
Electrical connection			10 amp IEC	10 amp IEC	-
Power consumption			30	40	-
Power output to liquid @ 20°C			15	22	-
Safety			thermal fuse	thermal fuse	-
Temperature range			-	-	2°C above coolant temperature
Coil Øxl			-	-	77 x 55

# Options and accessories

## Options and accessories

● = compatible

	LT ecocool™ 100	LT ecocool™ 150	LT ecocool™ 200	T100-R4/R5	TC120-R4/R5	TX150-R4/R5	TXF200-R4/ R5	LTC4
Labwise™ software (see section 3 for further information) 	-	●	●	-	-	●	●	●
Temperature probes, 3m cable								
<b>TXPEP</b> plastic probe	-	-	-	-	-	●	●	●
<b>TXSEP</b> stainless steel probe	-	-	-	-	-	●	●	●
<b>PEP</b> plastic probe	-	●	●	-	-	-	-	-
<b>SEP</b> stainless steel probe	-	●	●	-	-	-	-	-
<b>VTP1-LT</b> maximum pressure 1000 mbar maximum flow 9 L/min 	●	●	●	-	-	-	-	-
<b>VTP2-LT</b> maximum pressure 1650 mbar maximum flow 12 L/min 	●	●	●	-	-	-	-	-
<b>VTP1-PLR4/VTP1-PLR5</b> maximum pressure 1000 mbar maximum flow 9 L/min 	-	-	-	●	●	●	●	●
<b>VTP2-PLR4/VTP2-PLR5</b> maximum pressure 1650 mbar maximum flow 12 L/min 	-	-	-	●	●	●	●	●
<b>CW5</b> heat exchange coil 	●	●	●	●	●	●	●	●
<b>IQOQ</b> documentation	IQOQ LT ecocool™ 100	IQOQ LT ecocool™ 150	IQOQ LT ecocool™ 200	IQOQ T100 + IQOQ R4 IQOQ T100 + IQOQ R5	IQOQ TC120 + IQOQ R4 IQOQ TC120 + IQOQ R5	IQOQ TX150 + IQOQ R4 IQOQ TX150 + IQOQ R5	IQOQ TXF200 + IQOQ R4 IQOQ TXF200 + IQOQ R5	IQOQ LTC4
<b>PQ</b> documentation	PQ LT ecocool™ 100	PQ LT ecocool™ 150	PQ LT ecocool™ 200	PQ T100 + IQOQ R4 PQ T100 + IQOQ R5	PQ TC120 + IQOQ R4 PQ TC120 + IQOQ R5	PQ TX150 + IQOQ R4 PQ TX150 + IQOQ R5	PQ TXF200 + IQOQ R4 PQ TXF200 + IQOQ R5	PQ LTC4 + IQOQ LTC4
<b>Extended warranty 1 year EWC1</b>	●	●	●	●	●	●	●	●
<b>Extended warranty 2 years EWC2</b>	-	-	-	●	●	●	●	-

# Options and accessories

Pump connectors (optional)	Part number
 <p>Replacement plastic pump inlet/outlet connector. Fits tubing 9mm inner dia. Temp range -50°C to 200°C.</p>	<b>P-M6</b>
 <p>Replacement plastic pump inlet/outlet connector. Fits tubing 15mm inner dia. Temp range -50°C to 200°C.</p>	<b>P-M11</b>
 <p>Metal pump inlet/outlet connector, dual seal super rapid 4mm. Fits semi rigid tubing 4mm outer dia. Temp range -20°C to 100°C.</p>	<b>M-SR4</b>
 <p>Metal pump inlet/outlet connector, dual seal super rapid 6mm. Fits semi rigid tubing 6mm outer dia. Temp range -20°C to 100°C.</p>	<b>M-SR6</b>
 <p>Metal pump inlet/outlet connector, dual seal super rapid 8mm. Fits semi rigid tubing 8mm outer dia. Temp range -20°C to 100°C.</p>	<b>M-SR8</b>
 <p>Metal pump inlet/outlet connector, hose barb 7mm. Fits flexible tubing 7mm inner dia. Temp range -40°C to 120°C.</p>	<b>M-HB7</b>
 <p>Metal pump inlet/outlet connector, hose barb 9mm. Fits flexible tubing 9mm inner dia. Temp range -40°C to 120°C.</p>	<b>M-HB9</b>
 <p>Metal pump inlet/outlet connector, hose barb 12mm. Fits flexible tubing 12mm inner dia. Temp range -40°C to 120°C.</p>	<b>M-HB12</b>
 <p>Metal pump inlet/outlet plate, 1/4 " BSP/G1/4 female. Temp range -50°C to 200°C.</p>	<b>M-UC</b>
 <p>General purpose hose kit, includes 2 x 2m general purpose insulated hosing -40 to 100°C, assembled with LT ecocool™/Optima™ pump outlet plate and simple hose clips, no tools required. Can be cut to length. 10mm ID, 14mm OD.</p>	<b>HOSE100</b>
 <p>High temperature hose kit, includes 2 x 2m high temperature insulated hosing -50 to 200°C, assembled with LT ecocool™/Optima™ pump outlet plate and simple hose clips, no tools required. Can be cut to length. 8mm ID, 11mm OD.</p>	<b>HOSE200</b>